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ABSTRACT

A research study examined inner-city junior high school students' coping processes in relation to stressful academic and social events in the school environment. Data on coping styles were collected from approximately 200 students (Grade 7-8) with the Academic Coping Inventory, a self-report measure with four dimensions (positive coping, projection, denial, and non-coping). The coping variables, alone and in interaction with perception of stressor frequency, were found to have very different effects on grade point average by sex and reading level. A subsample of 60 students was interviewed to further examine students' coping styles in stressful social as well as academic contexts within the school, and whether appraisal played a role in determining the nature of coping styles. Preliminary analysis of the interviews indicated that the adolescents appraised stressful academic situations as ones in which they could take the more constructive action, that both boys and girls reported more projection coping in social than academic contexts, and that boys reported more denial in social contexts than in academic, and more denial in social contexts than girls. (Author/KH)

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COPING IN SCHOOL: CORRELATIONS AMONG PERCEPTIONS OF STRESS, COPING STYLES, PERSONAL ATTRIBUTES, AND ACADEMIC ACHIEVEMENT IN INNER-CITY JUNIOR HIGH SCHOOL STUDENTS

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Public Education Association

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This research has been conducted in the context of an action-research project directed by Joseph C. Grannis of Teachers College for the Public Education Association and funded by the William T. Grant Foundation. The writer is indebted to Joseph C. Grannis for his contributions to the literature review, the data collection and the data analysis as well as his insights about coping and stress in the ecology of a school. She is also grateful to Wanda Bethea for her help with the data collection and to Carole Baguley for secretarial assistance.

Abstract

This presentation described a study designed to examine inner-city junior high school students' coping processes in relation to stressful academic and social events in the school environment. Data on coping styles were collected from approximately 200 seventh and eighth grade students with the Academic Coping Inventory (Tero & Connell, 1984), a self-report measure with four dimensions (positive coping, projection, denial and non-coping). The coping variables, alone and in interaction with perception of stressor frequency, were found to have very different effects on grade point average by sex and reading level. A subsample of 60 students was interviewed to further examine students' coping styles in stressful social as well as academic contexts within the school, and whether appraisal played a role in determining the nature of coping styles. Preliminary analysis of the interviews indicated that the adolescents appraised stressful academic situations as ones in which they could take the more constructive action, that both boys and girls reported more projection coping in social than academic contexts, and that boys reported more denial in social contexts than in academic, and more denial in social contexts than girls. The differences in coping styles, personal attributes, perceptions of stress and academic achievement of four status groups of students were also discussed.

Coping in school: Correlations among perceptions of stress, coping styles, personal attributes, and academic achievement in inner-city junior high school students

This presentation will report on a study designed to examine students' coping processes in relation to stressful academic and social events in the junior high school environment and whether students with differing perceptions of stress, levels of academic achievement, and personal attributes have different coping styles. The study took place within the framework of an action-research project, The Project on Academic Striving, being conducted by Joseph C. Grannis of Teachers College for the Public Education Association with funding from The William T. Grant Foundation, to identify school-related stressors and supports and how they affect academic achievement and school attendance. Data on students' perceptions of stress, academic achievement and personal attributes were collected by Grannis and his colleagues including this writer. Data on coping styles were collected by these researchers using a group-administered self-report measure, The Academic Coping Inventory (Tero & Connell, 1984), and interviews conducted by this writer alone.

The major biological and psychosocial changes of early adolescence, the increased academic demands of a less personal, more departmentalized school structure, and the young adolescent's need for social acceptance and susceptibility to negative peer pressure are often cited in the literature as conditions that cause stress and trauma in the lives of students in junior high school (Hamburg, 1974, among others). That many adolescents are unable to cope successfully with these day-to-day stresses in school is reflected in widely known statistics of increasing teenage pregnancy, alcohol and drug use, and dropping out by younger and younger students. Furthermore, the ways in which children deal with stressful situations in school (e.g. aggressive or "tuned out" behavior) often elicit punishment rather than understanding and support and set in motion a vicious cycle that can have serious consequences for the students' intellectual, social and emotional development (Johns & Johns, 1983). The debilitating effects of school stress are all the more serious in the context of inner-city children's often stressful lives outside of school. As Rutter and Quinton (1977) have found, stress factors potentiate each other, increasing the possibility of pathological and anti-social outcomes in geometric proportions. On the other hand, Rutter and Quinton also found that positive experiences in school enabled children from disrupted and troubled family situations to grow up to lead healthy, productive lives. Finally, there are children who manage to cope with stressful conditions in school and not only survive but thrive there. The major purpose of this study is to learn more about the factors, internal and external, which both inhibit and make possible successful coping in school.

Coping is being defined as those efforts, both of a problem-focused and emotion-focused nature, by students to deal with academic and social stressors in the school environment. Stress is defined as "any event in which environmental or internal demands (or both) tax or exceed the adaptive resources" of the individual (Lazarus & Launier, 1978:296). The model for this writer's examination of stress has been greatly influenced by that of Lazarus and his colleagues (Lazarus et al., 1980) and Grannis (1985), who propose less research involving large samples and more investigations of

individuals' coping processes across time in different contexts. After interviewing people every month for over a year, Folkman and Lazarus (1980) found that the most potent influences on adults' styles of coping were context and how the event was appraised (e.g. as benign, a challenge or a threat -- and whether anything constructive could be done about it). Their results indicated that while problem-focused coping predominated in situations that subjects felt they could do something constructive and emotion-focused coping was used more in situations that had to be accepted, subjects used both types of coping in most situations. Other researchers (Connell, 1984; Murphy, 1981; Tero & Connell, 1984) have suggested that children's coping styles vary in different settings or different contexts within the same setting. Maccoby (1983) describes how children insulate themselves against distress by not aspiring to competence in certain areas because failure in an uninvested area is not especially stressful. While decisions about ego investment may be largely emotional and unconscious in young children, they presumably become increasingly cognitive and conscious as children become more self-aware in early adolescence.

This study, therefore, examined the extent to which a group of junior high school students used problem-focused and emotion-focused coping in school, and the effectiveness of each, whether the style of coping varied by context (academic and social situations) within the school environment, and whether for this age, cognitive appraisal was beginning to be evident. This examination was carried out in two parts: The first by administering a self-report measure on coping with stress in an academic situation (The Academic Coping Inventory developed by Tero & Connell, 1984) to approximately 200 students; and the second, by interviewing a subsample of 60 students several months later to elicit their coping strategies in stressful academic and social situations in more depth. This paper will present the findings of the first part of this study of the total sample as well as some preliminary findings relating to the subsample.

Part I

Population and context

The school in which this study took place was an inner-city intermediate school with approximately 423 students in the seventh and eighth grades and special education classes. The pool of subjects was students in the regular seventh and eighth grade classes and a seventh grade holdover class whose parents had given them permission to participate in the Project on Academic Striving. A vast majority of the students were American-born blacks; the rest were blacks from the Islands or Hispanic. A majority of the students had repeated at least one grade. In the spring of 1984, only 39.5% were reading on grade level or above and about 75% were eligible for the free lunch program. The administrative and teaching staff was racially integrated.

Measures

Following a literature search for an instrument to measure coping in school, the writer concluded that The Academic Coping Inventory (Tero & Connell, 1984) was the most appropriate available. It is a 19-item self-report measure which is easily administered to students in a classroom setting. It yields four dimensions of children's coping in response to

perceived past academic failure: Positive Coping (problem-focused strategies and attitudes: 5 items), Projection Coping (blaming others: 4 items), Denial (avoiding or devaluing the outcome: 4 items) and Non-coping (amplifying rather than trying to reduce the failure-related anxiety: 6 items). Each of the items is scored on a 4-point scale such that high score indicates strong endorsement of that particular coping behavior or attitude. Four subscale scores result for each subject. (The four subscale scores have been standardized by summing the scores and dividing by the number of items in each subscale). Initially developed with several samples of third through sixth graders in working-,middle-, and upper middle-class populations in suburban upstate New York, it had also been administered to students in an inner-city magnet elementary school with 60% minority and lower SES children (J. P. Connell, personal communication, November 15, 1984). Its major drawback was, therefore, that it had not been used with students above the 6th grade.

Ultimately, the instrument used by this writer contained 18 items. The Human Subjects Committee established for review of all research procedures and instruments connected with the Project on Academic Striving (and consequently this study) requested the deletion of one of the items in the non-coping subscale. This change was discussed with one of the instrument's developers; and it was decided that the omission should not greatly change the validity of the instrument (J. P. Connell, personal communication, November 8, 1984).

The assessment of students' perceptions of and feelings about school stressors was determined by their responses to The Academic Environment Inventory (Grannis, 1983). This paper will focus on the responses on two of the four subscales of the Academic Environment Inventory, Stressor Frequency (the perceived frequency of potentially stressful events) and Stressor Reaction (how students react to these events). Students' self-esteem was measured by The Hare Self-Esteem Scale (Hare, 1977) which has three subscales (home, peer and school self-esteem) and a general self-esteem score derived from summing the subscales. Locus of control was measured by The Children's Nowicki-Strickland Scale of Internal-External Control (Nowicki & Strickland, 1973) which yields an externality score. The standardized reading test scores used in the study came from the California Achievement Test of Reading administered citywide by school personnel in the spring of 1984. These scores have been adjusted to remove differences due to the students' being in different grades: 1.0 has been subtracted from all the 7th grade holdover and 8th grade scores, resulting in scores which are all relative to the norm for grade 7 (7.7). The Final Grade Point Average was calculated by averaging the grades of the four major subjects, Language Arts, Mathematics, Science and Social Studies.

Sample

The Academic Coping Inventory was administered to 102 girls and 86 boys in the regular seventh and eighth grades and one seventh grade holdover class. There were 51 boys and 35 girls in the seventh grade sample; 32 boys and 59 girls in the eighth grade sample, and 3 boys and 8 girls in the holdover seventh grade sample.

Results

The Academic Coping Inventory

Before presenting the results of the comparisons of the coping subscales with students' perceptions of stress, personal attributes, and academic achievement, it is important to examine the results of the Academic Coping Instrument itself and how they compare to Tero and Connell's (1984) findings, as the instrument has not been used previously with junior high school age students (See Table 1). It is interesting to note that in the original sample, Positive Coping and Projection Coping were negatively correlated ($r = -.21$, $p < .05$) as Tero and Connell (1984) had anticipated. This writer hypothesized (personal communication with J. P. Connell, November 15, 1984) that such a correlation would not be present in the inner-city sample because students who did not blame others to some extent in the chaotic school conditions which often resulted in minimal time on task and inadequate instruction could be said to be unrealistically taking responsibility for their failures. This prediction proved correct for the sample as a whole: there was no relationship between Positive Coping and Projection ($r = -.01$). Instead there was a weak, though significant negative correlation between Denial and Positive Coping ($r = -.14$, $p < .05$), and stronger correlations between Projection and Denial ($r = .38$, $p < .001$), between Projection and Non-coping ($r = .26$, $p < 001$), and between Denial and Non-coping ($r = .22$, $p < .01$). Interestingly, there was also a weak positive correlation between Positive Coping and Non-coping ($r = .11$, $p < .10$).

Analyses of the item responses to the Academic Coping Inventory yielded some similarities and differences with the original elementary school sample results. Tero and Connell (1984) reported that all items showed their highest loading on the designated factor, that all primary loadings, except one, ranged from .50 to.79, and all but one cross-loading were less than half the primary loading in magnitude (Table 2). When this writer subjected her data to a factor analysis, the varimax rotated solution yielded the best simple structure and the pattern was generally similar to Tero and Connell's. All items except one showed their highest loading on the designated factor and all but four cross-loadings were less than half the primary loading in magnitude. The primary loadings showed, however, greater variability, ranging from .30 to .88 (Table 3).

Subscale reliability was assessed in both cases using Cronbach's alpha as an index of internal consistency. Tero and Connell (1984) report obtained coefficients of .73, .64, .65, and .75 for the Positive, Projection, Denial and Non-coping subscales, respectively. This writer found coefficients of .64, .64, .59, and .69 for the same subscales, respectively. The alpha coefficient of the last subscale, Non-coping, would rise to .73 if the item whose primary loading was not on that subscale ("I worry that other students will think I'm dumb") were removed.

It is interesting to note some of the differences in the item means between the elementary and junior high school populations. The Positive Coping and Projection Coping item means tended to be higher in the junior high school sample, while some of the Denial and Non-coping means were higher and some lower. The means of the Positive Coping and Projection Coping subscales were significantly higher in the junior high school sample

than the elementary school sample (3.5 vs 3.1; t= 2.0, $p<.05$ and 1.9 vs 1.6; t=2.69, $p<.01$), the former defying and the latter continuing trends noted by Tero and Connell (1984). The means of the Denial and Non-coping subscales were virtually the same for both samples.

The Means and Correlations of Variables in the Study

Table 4 presents the means and standard deviations of the measures of interest in this study for the total sample, and for the boys and girls separately. There was a significant difference ($p<.01$) between the Final Grade Point Average of the boys (69.2) and the girls (75.3). At the same time, there was not a significant difference between the boys' and the girls' 1984 CAT reading scores, their coping subscale scores, their self-esteem or locus of control scores, or their Stressor Frequency scores. There was, however, a significant ($p<.01$) difference in the Stressor Reaction scores of the boys (63.2) and the girls (69.7). In other words, the girls said they get more upset by stressful events but the reported frequency of stressful events was the same as for the boys. Grannis (1985) reported similar findings on the higher Grade Point Averages and Stressor Reaction scores of girls, despite similar reading scores, from a study conducted in the school the previous year.

Table 5 presents the zero-order correlations of the variables under study for the total sample of 188 students and for the 86 boys and 102 girls separately. It is important to note the correlations which relate to the construct validities presented by Tero and Connell (1984). They hypothesized and confirmed that Positive Coping would relate positively to internal perceptions of control and that Projection, Denial and Non-coping would relate positively to more external locus of control. A negative correlation between Positive Coping and externality (as measured by The Children's Nowicki-Strickland Scale of Internal-External Control) was evident in this junior high school sample only for boys; and it was relatively weak (r=-.15, $p<.10$). The correlations between externality and Projection, Denial and Non-coping were, however, stronger for the total sample (r= .18, $p<.05$; r= .19, $p<.01$; and r= .26, $p<.001$, respectively). Since Non-coping was hypothesized to reflect anxiety-enhancing behavior and ineffective coping, Tero and Connell (1984) expected a strong relationship between that subscale and a measure of school-related anxiety, which they found. For the junior high school group, similarly validating correlations were found between the Non-coping subscale and Stressor Frequency, for the sample as a whole (r= .26, $p<.001$), for boys (r= .29, $p<.001$) and for girls (r= .24, $p<.01$). Finally, Tero and Connell (1984) predicted that Non-coping would be expected to lower self-esteem which they report (r=-.17, $p<.01$). Similar correlations were found for the junior high school sample (r=-.16, $p<.05$) between Non-coping and the general self-esteem scale of The Hare Self-Esteem Scale. Even stronger, however, were the negative correlations between self-esteem and Projection and Denial (r=-.28, $p<.001$ and r= -.30, $p<.001$, respectively). Very interesting sex differences appeared among these variables in the junior high school sample. For the boys as a whole, none of the academic coping subscales were related to total self-esteem, though the Projection and Non-coping subscales were related negatively to school self-esteem (r= -.27, $p<.05$; r= -.26, $p<.05$, respectively). For the girls, all of the coping subscales were related to both general and school self-esteem in the expected directions; the strongest correlations were between Denial and

both general and school self-esteem ($r = -.46$, $p < .001$ and $r = -.45$, $p < .001$, respectively).

Earlier, it was noted that the junior high school sample differed from the elementary school sample in that there was no correlation between Positive Coping and Projection Coping. Further, Table 5 shows that there was no correlation between Projection Coping and Final Grade Point Average for the sample as a whole or for girls alone, and only a very modest one for boys alone ($r = -.14$, $p < .10$). Denial was somewhat more related to Final Grade Point Average for the whole sample ($r = -.16$, $p < .05$) and for girls ($r = -.19$, $p < .05$). Denial was also negatively related to Positive Coping for the girls ($r = -.24$, $p < .01$).

The correlations between the coping subscales and the two stressor subscales, Stressor Frequency and Stressor Reaction, were interesting for the light they throw on the meaning of both scales and the relation between stress and coping. One would hypothesize that Non-coping (anxiety-enhancing behaviors and attitudes) would be related to perception of the frequency of stressor events (Stressor Frequency) which it was for the whole sample ($r = .26$, $p < .001$) and for boys and girls separately ($r = .29$, $p < .001$ and ($r = .24$, $p < .01$, respectively). In addition, Projection Coping was positively related to Stressor Frequency ($r = .20$, $p < .01$). On the other hand, Stressor Reaction, which records the degree of upset experienced by the student and which Grannis (1985) has suggested is not so much an indicator of psychological distress as a "more evaluative orientation which combines both values and ego strength" could be hypothesized to be the obverse of Denial. This hypothesis was modestly confirmed by the negative correlations between Stressor Reaction and Denial for the sample as a whole ($r = -.14$, $p < .05$) and for boys alone ($r = -.20$, $p < .05$).

At the suggestion of J. C. Grannis (personal communication, March, 1986), the data was examined for interactions with students' reading scores. The writer decided on a dividing point of 6.7 in the Adjusted 1984 Reading Scores: students with scores above 6.7 would be less than one year below grade level and above, while students with scores equal to and less than 6.7 would be more than a year below grade level. Some rather different coping patterns were evident for the two groups of students and for the groups separately by sex. For the subsample of better readers (scores of 6.7 and above), there was a negative correlation between Positive Coping and Projection ($r = -.17$, $p < .10$) (Table 6). This pattern actually resulted from a much stronger correlation ($r = -.35$, $p < .01$) for the girls who were better readers. The same relationship did not exist for the boys with higher reading scores or for the poorer readers. For the subsample of poorer readers, there was a negative correlation between Denial and Positive Coping ($r = -.18$, $p < .05$). Again, this was due to a strong and unique relationship for the girls with lower reading scores ($r = -.32$, $p < .05$). The relationships between coping styles and academic achievement also showed some interesting differences. There was a moderately strong negative correlation between Projection and Final Grade Point Average for the better readers ($r = -.28$, $p < .01$) which was the result of a strong correlation between these variables for the boys alone ($r = -.46$, $p < .01$). There was no such relationship for the boys who were poorer readers or for the girls.

Regression Analyses of Coping Subscales, Stressor Frequency Interactions and Grade Point Average

Preliminary analyses which regressed Final Grade Point Average on the four subscales of the Academic Coping Inventory for the whole sample and for boys and girls separately showed the coping subscales accounting for insignificant proportions of the variance in Final Grade Point Average, both when the 1984 Reading score was controlled for and when it was not. Further analyses showed that two interaction terms, involving coping subscales and Stressor Frequency, accounted for variance in Final Grade Point Average and are, therefore, included in the regression analyses reported in this paper. One is the interaction between Projection Coping and Stressor Frequency and the other is the interaction between Denial and Stressor Frequency. It should be noted that when Reading Test score and Stressor Frequency scores were added as variables, the total sample of subjects was reduced from 188 (102 girls and 86 boys) to 144 (76 girls and 68 boys) due to the unavailability of a number of these scores and the exclusion of the 11 students in the seventh grade holdover class.

The independent variables were entered in an hierarchical order which controlled for reading by entering the Adjusted CAT reading scores at the first step. The contribution of each independent variable is examined separately. As indicated earlier, for the whole sample none of the coping subscales contributed significant variance. The 1984 Reading score accounted for 15.7% of the variance ($p<.001$) and the interaction of Projection and Stressor Frequency accounted for a minimal additional 1.7% ($p<.10$) (Table 8). For boys alone, the Reading score accounted for 16.4% ($p<.01$) of the variance in Final Grade Point Average, Projection Coping added 3.0% and the interaction term, Projection X Stressor Frequency, added 6.1% ($p<.05$). For the girls alone, the Reading score accounted for 24.7% of the variance ($p<.001$) and none of the other variables added to the explanation of the variance in Final Grade Point Average (Table 8).

Regression analyses were then done for the whole sample and for boys and girls separately by reading score (above 6.7, and equal to and less than 6.7). The results were rather provocative but should be viewed with some caution as the subsamples of boys and girls were very small. For the total subsample of better readers, the reading score itself accounted for 15% of the variance in Final Grade Point Average ($p<.01$); then Stressor Frequency and the interaction of Projection Coping and Stressor Frequency each added about 4%. For the poorer readers, reading score contributed virtually nothing; and Stressor Frequency added 4.5% ($p<.05$) and the interaction of Denial and Stressor Frequency another 3%, though none of the equations were statistically significant (Table 9). For the boys who were better readers, the reading score accounted for 25% of the variance in Final Grades and Projection added another 10.6% ($p<05$). This pattern was not seen for the boys who were poorer readers, instead only the interaction of Denial and Stressor Frequency accounted for significant variance (9.8%, $p<10$), on top of 4.9% contributed by Stressor Frequency (Table 10). For the girls who were better readers, the interaction of Denial and Stressor Frequency added 11.3% ($p<.10$) after reading score which accounted for 21% ($p<.05$). For the girls who were poorer readers, Non-coping accounted for 10.4% ($p<.05$) and Stressor Frequency again added 5% of variance.

To see the effects of children's coping styles on their academic achievement, Tero and Connell (1984) performed a different kind of analysis on their data. They classified students by the coping subscale on which each scored highest and created three types: positive copers, defensive copers (combining denial and projection), and non-copers. They found that positive copers had the highest scores on standardized achievement tests, defensive copers the second highest, and non-copers the lowest. This writer tried the same analysis with Final Grade Point Average and found no differences. An analysis was then performed comparing the Final Grade Point Averages of the students at the extremes (one-half standard deviation above and below the mean) in their responses on the four coping subscales. Again, the Final Grade Point Averages of the students who were very high and very low on Positive Coping, Projection and Non-coping were no different. The Final Grades were, however, statistically different ($t=2.39$, $p<.02$) on Denial: the mean of high deniers' Grade Point Averages was 69.2 and low deniers' 73.6. These two groups contained equal numbers of boys and girls (high deniers--24 boys and 26 girls; low deniers--31 girls and 27 boys). A final analysis compared the Final Grade Point Average of students above and below the mean on Denial. The boys above the mean in Denial had a Final Grade Point Average of 67.2 vs 71.6 for those below the mean ($t= 2.0$, $p<.05$), while for the girls above and below the mean in Denial, the Final Grade Point Average was virtually the same (74.1 vs 76.6, respectively).

Discussion

The first comments concern the responses to the Academic Coping Inventory itself. Similar to the findings of Tero and Connell (1984), there were no differences in the means of the four coping subscales by sex. Positive Coping was the most strongly endorsed, Non-coping was second, followed by Denial and Projection. This order was the same as that for the elementary school sample. The means of the responses of the Positive Coping items and of the subscale itself in the junior high school sample were consistently higher, however, and probably speak to social desirability. By the time students reach the seventh and eighth grades (as compared to a sample of third to sixth graders), they have at least a general awareness of what they should be doing to survive academically in school. The students' responses to this subscale were probably more indicative of what they know they should be doing than what they actually do. Kerr, Zigmond, Harris and Brown (1985) have reported a similar phenomenon: Both successful and unsuccessful high school students reported using appropriate school survival skills (e.g. positive coping) but only the successful students were observed to actually use these behaviors. The mean of the Positive Coping subscale (3.5 on a 4-point scale) may also reflect a ceiling effect. Both of these considerations probably account in part for the weak relationship of this variable to academic achievement.

The mean of the Projection subscale continued the trend toward more Projection by students as they advanced in school, seen by Tero and Connell in the elementary school sample. Projection was not related to Positive Coping or Final Grade Point Average for the whole sample or for boys and girls separately. The interaction of Projection and Stressor Frequency was seen, however, to contribute to variance in Grade Point Average for the boys (Table 8). Furthermore, for the boys who were better readers, there was a strong negative relationship between Projection and Final Grade Point

Average ($r = -.46$, $p < .01$). Additionally, Projection made the strongest contribution (11%, $p < .05$) after reading score to variance in Final Grade Point Average for these boys. These relationships were not evident for girls who were better readers or for boys and girls who were poorer readers. As noted earlier, students' blaming others to some extent for academic failure in a setting that is not condusive to learning may be not only realistic but not unhealthy. Students have, in fact, complained to this writer about other students who do not pay attention to the teacher and about teachers who do not teach. These phenomena have been observed to be more frequent in the lower-track classes where the students with lower reading scores are placed. Graham and Long (1985) have reported a related finding, namely, that anger was the dominant affect when students' attributed academic failure to teacher hindrance (poor instruction).

While there was not a significant difference in the Denial subscale means for the two populations, the junior high school sample's mean was higher producing a trend counter to that seen in the elementary school sample, in which endorsement of Denial declined as the students got older. Denial had the strongest correlation of all the coping subscales to Final Grade Point Average ($r = -.16$, $p < .05$) for the whole sample and for girls ($r = -.19$, $p < .05$). In the regression analyses which separated the sample on reading scores, Denial in combination with Stressor Frequency contributed a significant 11% of variance of Final Grade Point Average for girls with better reading scores. For boys with lower reading scores, a similar trend appeared (9.8% of variance explained, $p < .10$).

Another finding which bears on this discussion is that the girls as a whole have significantly higher Final Grade Point Averages in spite of exhibiting no differences in reading scores or the other variables considered, except Stressor Reaction. This stressor variable has already been noted to be related in a polar way to Denial as a construct. It is important to note that the phenomenon of girls' higher Grade Point Averages and Stressor Reaction scores reported here for the sample of 188 students in the seventh and eighth grades in 1984-85 was evident in the sample of 80 students in the sixth and seventh grades in 1983-84 reported by Grannis (1985) at AERA last year. He noted further that those students who had a strong reaction to upsetting events tended to be more protected from the debilitating impact of the frequency of stressor events and were able to achieve more academically. The analysis by reading score in this study would appear to support this finding for the better readers: the correlation between Stressor Reaction and Final Grade Point Average for girls and boys was moderately strong ($r = .33$, $p < .05$ and $r = .23$, $p < .10$, respectively). The many differences in the findings by sex also support Grannis' (1985) insight that it is easier for girls than boys to meet the academic and social demands of school.

The differences in coping patterns for students of different abilities in the varying contexts of a school in which students are tracked on the basis of their reading scores are just beginning to be understood by this writer. She looks forward to examining in more depth the relationship of coping styles and personal attributes to achievement in the context of the stressful academic and social situations discussed in the interviews as well as gaining further insight from the other findings of the Project on Academic Striving.

Part II

Population

In order to look more closely at the coping styles of individual students, the research design called for the interviewing of a subsample of students. Four distinct status groups of students were created within a 2 x 2 matrix of high and low Stressor Frequency scores from an administration of the Academic Environment Inventory (Grannis, 1983) in November, 1984 and high and low Mid-year Grade Point Average (taken from school records in February, 1985). The criterion for defining status was the 75th percentile and above (high) and the 25th percentile and below (low).

Measures

The writer created an interview format especially for this study. Students were asked to discuss stressful events in the school of both an academic and social nature. At the end of each interview, students were asked to reflect back on one or two of the events and to endorse several statements expressing different coping styles on a checklist with a 3-point scale (hardly ever, sometimes, often). The students were also asked whether they thought they could change the situation or not (cognitive appraisal).

Results

Sixty students were interviewed and the interviews are currently being coded; the interview results will be reported at a later time. All sixty students also responded to the checklist for a stressful academic event; and thirty-eight (16 boys and 22 girls) responded for both an academic and a social event. The upsetting (stressful) academic events described were either failing a test or doing poorly on a test. The upsetting social (interpersonal) events were more varied: sixteen students referred to students not getting quiet in the classroom, fourteen referred to lunchroom disorder (throwing food and fighting), three to not being able to go out of the building for lunch, and one each to "other kids fighting," "people picking on me," and "being kept out of class for being late."

Analysis of the checklist statements showed the following results: 1) Nearly all the students appraised the stressful academic situations as ones that they could change or do something about, 2) Nearly all students appraised the stressful social situations as ones that they could not change and just had to accept, 3) Both boys and girls reported more Projection in the social situations than in the academic (2.2 vs 1.1, $p<.001$ and 2.1 vs 1.5, $p<.05$, respectively), 4) Boys reported more Denial in social situations than girls (1.8 vs 1.4, $p<.10$), 5) Boys reported more Denial in social situations than in academic situations (1.8 vs 1.3, $p<.05$), 6) Girls reported more Projection in stressful academic situations than boys (1.5 vs 1.1, $p<.05$). Once again, the girls had the higher Final Grade Point Averages (80.1 vs 72.7; $t=2.18$, $p<.05$) and higher Stressor Reaction scores (72.2 vs 64.5; $t=3.38$, $p<.001$). In spite of their higher Denial scores, the boys in this small group also reported higher Stressor Frequency than the girls (32.5 vs 28.5; $t=1.84$, $p<.10$).

A second analysis of the mean scores of the various measures for the

students in the four status groups formed by the matrix of Stressor Frequency and Final Grade Point Average (Table 11) permits the creation of four summary student profiles which will be described briefly. The sharpest contrast between students was seen in the high Grade Point Average/low Stressor Frequency and the low Grade Point Average/high Stressor Frequency groups. While both endorsed Positive Coping to the same extent, the high-achieving, low stress group reported less Projection (1.8 vs 2.3, $p<.05$), less Denial (1.9 vs 2.3, $p<.10$), and less anxiety enhancing non-coping behavior (2.4 vs 2.9, $p<.10$). This group also reported higher Stressor Reaction scores (72.1 vs 64.5, $p<.01$), higher general self-esteem (102.3 vs 87.0, $p<.001$), higher school self-esteem (33.5 vs 27.3, $p<.001$) and more internal locus of control (11.9 vs 14.4, $p<.10$). Finally, the students in this high-achieving group were more likely to be girls (11 girls; 4 boys), while those in the low-achieving group were more likely to be boys (9 boys; 6 girls). It is interesting to note what happened for the group of students with high Grade Point Average when they also reported high Stressor Frequency. Projection and Denial were reported about the same as in all other groups; but there was a significant drop in general self-esteem (89.3 vs 102.3, $p<.01$) and school self-esteem (29.8 vs 33.5, $p<.05$), and a more external sense of control (14.1 vs. 11.9, $p<.05$). In addition, the composition of the groups changed to nearly equal numbers of boys and girls (8 girls; 7 boys).

Finally, what in particular characterized the students in the low GPA/low Stressor Frequency group? These students were twice as likely to be boys (6 boys; 3 girls) and were more likely not to be in school at all (explaining why the number of students in this last quadrant is smaller than in the others). These students, like the other low-achievers reported more Denial than those with low Stressor Frequency and high GPAs (2.3 vs 1.9, $p<.10$). This finding corresponds to these groups' scores on Stressor Reaction: both low-achieving groups had lower Stress Reaction scores than the high-achieving, less stressed students. The general self-esteem of these students was significantly higher (93.4 vs 87.0,$p<.10$) than that of their low-achieving peers with high Stressor Frequency scores, even though their Grade Point Averages were significantly lower (62.1 vs 67.9; $t=2.0$, $p<.10$). While their Denial scores were similar to those of their low-achieving peers, their Stressor Reaction scores were significantly higher (67.0 vs 64.5, $p<.10$).

Discussion

To begin with the analysis of the checklist statements, the context of the situation, whether it was academic or social, and the students' appraisal of the situation as one in which they could have an effect appeared to influence coping style. More defensive coping was used by both girls and boys in the situations which they appraised as not permitting constructive action by themselves. This parallels for young adolescents the findings of Lazarus and Folkman (1980) for adults. Interestingly, it was the boys who perceived more stress, reported more Denial in social situations as well as more indifferent Stressor Reaction, and achieved less well. To understand this better, it will be important to reanalyze the stressor variable subscales of the Academic Environment Inventory (Grannis, 1983) according to context to see whether more stress was reported in academic or social situations.

The profiles of the students in the four quadrants of the matrix present some characteristics that continue to be puzzling. One might expect, for example, that high-achieving students would have consistently higher general and school self-esteem than low-achieving students but that is not the case. Pearlin and Schooler's (1978) study of adults' coping behaviors in different role areas is suggestive of some explanations. They noted that adults rely on a combination of social and psychological resources and behavioral and intrapsychic responses in coping with stressful situations. Pearlin and Schooler found that it was important to have a repertoire of responses and resources but that psychological resources, namely self-esteem, freedom from negative attitudes towards self and a sense of control, were the most important in mitigating the stresses of the work place, where people may have little direct control. One could posit that in this regard many schools are like places of work. One could speculate that students with a strong sense of control and high self-esteem have personal psychological resources that would mitigate their feelings of stress. Indeed, the group with these personal resources did report low Stressor Frequency (see Group II, Table 14). The equally high-achieving students (Group I) with lower self-esteem and feelings of less personal control could be said not to have the personal resources to mitigate school stress. This group did, in fact, report high Stressor Frequency. Similar interpretations could be made for the low-achieving groups: Group IV with higher self-esteem than all but Group II (and similar feelings of control to all except Group II) reported low Stressor Frequency, despite failing Final Grade Point Averages. In addition, the students in Group IV were high on Denial, corresponding to Pearlin and Schooler's assertion that stress was less likely to result in the work place when people disengaged themselves from involvement. While having high self-esteem can be viewed in this paradigm as being protective against stress, it does not explain how the very low-achieving students come to have this strong sense of self. That disadvantaged black children have high academic self-concept despite low achievement has been noted by Rosenberg (1979) and Graham and Long (1985). Hare (1977) found that while school self-esteem for black, lower socioeconomic children was lower than for white, upper socioeconomic children, school self-esteem did not predict general self-esteem for them. Clearly, further examination of the possible causal relationships between self-esteem, perception of stress and denial is needed.

The means on the Denial subscale of the Academic Coping Inventory (Tero & Connell, 1984) were the same for boys and girls. The means for boys and girls were also the same for the writer's denial checklist item in the academic situation. The difference came in the social context where boys used more denial than girls. One can speculate that the social environment of this particular school (and probably other inner-city schools) provides a context that makes it difficult for many students, especially boys, to cope appropriately with the stresses they feel. Many social (interpersonal) situations in school may well be more stressful for boys, necessitating a more denying, disengaged response which not only escalates their difficulties by being misinterpreted and punished (cf. Johns & Johns, 1983) but also carries over into their academic attitudes and behaviors.

While there is still much to be learned about how early adolescents cope with stress in school, it is evident that many need much more encouragement and incentive to engage constructively in the academic and social life of

the school. Some middle schools have set up advisement and counseling systems which enable each student to have a one-to-one (or small group relationship) with an adult (Lipsitz, 1983). Others have contracted with researchers who are training staff to teach students social problem-solving skills as a strategy for coping with school stressors (Bruene, Beier, Elias & Clabby, 1985). In addition to conducting research, the staff of the Project on Academic Striving have tried to help teachers develop and implement activities during group guidance periods to improve students' interpersonal relations with peers and teachers as a way of reducing school stress and promoting academic achievement. In all, the role of the school counselor (Dinkmeyer & Muro, 1979) may well be to work less with individual children and more with school staff so that more adults are trained and mobilized to provide the support, counseling and social skills training needed by early adolescents.

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TABLE 1

COMPARISON OF INTERCORRELATIONS AMONG FOUR COPING SUBSCALES OF THE ACADEMIC COPING INVENTORY FOR ELEMENTARY AND JUNIOR HIGH SCHOOL SAMPLES

ELEMENTARY SCHOOL SAMPLE (Tero & Connell, 1984)
n = 194

	Positive Coping	Projection Coping	Denial Coping
Positive Coping			
Projection Coping	-.21**		
Denial Coping	.11	.21**	
Non-Coping (anxiety amplification)	.05	.14	.09

JUNIOR HIGH SCHOOL SAMPLE (Fahs, 1986)
n = 188

Positive Coping			
Projection Coping	-.01		
Denial Coping	-.14**	.38****	
Non-Coping (anxiety amplification)	.11*	.26****	.22***

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* $p < .10$. ** $p < .05$. *** $p < .01$. **** $p < .001$

TABLE 2

ITEM MEANS, STANDARD DEVIATIONS, AND FACTOR LOADINGS: ACADEMIC COPING INVENTORY (TERO & CONNELL, 1984)

ELEMENTARY SCHOOL SAMPLE

Item	Positive Coping Factor	Projection Factor	Denial Factor	Non-Coping Factor	Mean	Standard Deviation
Find out what I did wrong	.65				3.37	.79
I'll do better next time	.61				3.21	.80
Have another chance	.63				2.88	.88
See what I did wrong	.71				3.39	.72
Ask for help	.73				2.74	.90
Say test was unfair		.50			1.57	.69
Blame teacher		.58			1.61	.72
Mad at teacher		.77			1.47	.72
Mad at others		.71			1.57	.82
It didn't matter			.78		2.47	.99
Try to forget		(.27)	.31		2.08	.96
Don't look at test			.75		2.31	1.10
Don't think about it			.65		2.51	.98
Feel stupid				.65	2.45	.87
Worry others think I'm dumb				.67	2.11	.98
Mad at self				.67	2.23	1.03
Worry it will happen again				.54	2.57	.91
Feel terrible				.76	2.69	.98
Just feel bad				.62	2.89	.93

Note: Factor cross-loadings with magnitudes greater than half the primary loading are shown.

TABLE 3

ITEM MEANS, STANDARD DEVIATIONS AND FACTOR LOADINGS: ACADEMIC COPING INVENTORY - JUNIOR HIGH SCHOOL SAMPLE

	Item	Positive Coping Factor	Projection Factor	Denial Factor	Non-Coping Factor	Mean	Standard Deviation
1.	Try to see what did wrong	.63				3.57	.72
4.	Find out what I did wrong	.58				3.70	.64
7.	I'll do better next time	.72				3.82	.44
11.	Have another chance	.39				3.27	.90
18.	Ask for help	.44				3.22	.87
2.	Say test was unfair		.42	(.31)		2.02	.94
6.	Blame teacher		.34	(.19)		2.14	.95
13.	Mad at teacher		.88			1.89	1.02
16.	Mad at others		.48			1.70	.97
3.	It didn't matter			.38		1.84	.93
8.	Try to forget			.51		2.57	.93
10.	Don't look at test		(.27)	.30	(.24)	2.07	1.05
15.	Don't think about it			.71		2.27	.99
5.	Worry others think I'm dumb		(.33)		.18	1.84	1.02
9.	Mad at self				.72	2.74	1.01
12.	Worry it will happen again				.54	2.89	.99
14.	Feel terrible				.60	2.73	1.06
17.	Just feel bad				.65	2.97	.99

Note: Factor cross-loadings with magnitudes greater than half the primary loading are shown.

TABLE 4

MEANS AND STANDARD DEVIATION AND SIGNIFICANT t VALUES FOR COMPARISON OF BOYS AND GIRLS IN JUNIOR HIGH SCHOOL SAMPLE

	TOTAL n = 188		BOYS n = 86		GIRLS n = 102		
Variable	Mean	S.D.	Mean	S.D.	Mean	S.D.	Comparison by sex t
GPA	72.5	9.8	69.2	10.3	75.3	8.5	-4.39*
C.A.T. Reading (ART 84)	6.5	1.6	6.7	1.7	6.3	1.4	
Positive coping	3.5	.5	3.4	.5	3.6	.4	
Projection	1.9	.7	1.9	.7	1.9	.7	
Denial	2.2	.7	2.2	.6	2.2	.7	
Non-coping	2.6	.7	2.6	.6	2.7	.7	
Stressor reaction	66.8	8.9	63.2	7.8	69.7	8.7	-4.0*
Stressor frequency	29.2	5.4	29.2	5.2	29.2	5.6	
General self-esteem	91.9	10.5	90.3	9.9	93.1	10.7	
School self-esteem	29.3	4.4	28.6	3.6	29.8	4.9	
N-S Ext. Control	14.4	4.1	13.9	4.0	14.8	4.2	

* $p < .01$, two-tailed test

TABLE 5

ZERO-ORDER CORRELATIONS FOR THE TOTAL JUNIOR HIGH SCHOOL SAMPLE , BOYS AND GIRLS, SEPARATELY

	Positive Coping	Projection	Denial	Non-Coping	GPA	Total S - E	School S - E	N - S Ext. Cont.	Stressor Reaction	Stressor Frequency
Positive Coping										
Projection	-.01									
Denial	-.14**	.38****							Total	
Non-Coping	.11*	.26****	.22***						n = 188	
GPA	.11*	-.07	-.16**	-.07						
Total S-E	.21***	-.28****	-.30****	-.16**	.24***					
School S-E	.28****	-.30****	-.32****	-.18**	.43****	.78****				
N-S Ext. Control	-.08	.18**	.19***	.26****	-.11*	-.24***	-.16**			
Stressor Reaction	.10*	-.08	-.14**	.12*	.23***	.10	.03	.04		
Stressor Frequency	.03	.20***	.06	.26****	-.05	-.33****	-.27****	.26***	-.01	
ART 84	.12*	-.08	-.15**	-.04	.36****	.13*	.10	-.24***	.12*	-.13*
Positive Coping										
Projection	.05									
Denial	-.03	.37****							Boys	
Non-Coping	.08	.43	.29***						n = 86	
GPA	-.02	-.14*	-.12	-.09						
Total S-E	.14	-.16	-.03	-.13	.13					
School S-E	.15	-.27**	-.04	-.26**	.42****	.75****				
N-S Ext. Control	-.15*	.21**	.33***	.07	-.24**	-.26**	-.29**			
Stressor Reaction	.08	-.17*	-.20**	.07	.17*	.03	-.01	-.07		
Stressor Frequency	-.03	.24**	-.07	.29****	.02	-.30**	-.29**	.20*	-.17*	
ART 84	.10	-.03	-.10	.04	.43****	-.12	-.11	-.19*	.30****	-.04
Positive Coping										
Projection	-.07									
Denial	-.24***	.39****							Girls	
Non-Coping	.11	.14*	.19**						n = 102	
GPA	.15*	-.00	-.19**	-.10						
Total S-E	.24**	-.38****	-.46****	-.21**	.32***					
School S-E	.33***	-.32***	-.45****	-.17**	.43****	.81****				
N-S Ext. Control	-.06	.15*	.09	.37****	-.11	-.24**	-.12			
Stressor Reaction	-.04	-.05	-.08	.10	.13	.08	-.01	.04		
Stressor Frequency	.09	.17**	.16*	.24***	-.11	-.36****	-.26***	.31***	.10	
ART 84	.19**	-.14*	-.22**	-.09	.41****	.39	.30***	-.27***	.08	-.24**

* $p < .10$. ** $p < .05$. *** $p < .01$. **** $p < .001$.

TABLE 6

ZERO-ORDER CORRELATIONS FOR JUNIOR HIGH SCHOOL SAMPLE BY READING SCORE (ABOVE 6.7; EQUAL TO AND LESS THAN 6.7)

	Positive Coping	Projection	Denial	Non-Coping	ART 84	GPA	Stressor Reaction
Positive Coping					GT 6.7		
Projection	-.17*				n = 82		
Denial	-.08	.25**					
Non-Coping	.23**	.10	.13				
ART 84	.10	-.32***	-.12	-.26**			
GPA	.17*	-.28***	-.18*	-.17*	.41****		
Stressor Reaction	.12	-.12	-.13	.21**	.25**	.37***	
Stressor Frequency	.02	.18*	.17*	.21**	-.15	-.27**	-.16*
Positive Coping					LE 6.7		
Projection	.12				n = 95		
Denial	-.18**	.47****					
Non-Coping	-.04	.33****	.29***				
ART 84	.31***	.01	.13*	.06			
GPA	.05	.00	-.16*	-.12	.16*		
Stressor Reaction	.06	-.14	-.17*	-.00	.07	.09	
Stressor Frequency	-.03	.21**	-.05	.29***	-.34***	.14	-.12

* $p < .10$. ** $p < .05$. *** $p < .01$. **** $p < .001$.

TABLE 7

ZERO-ORDER CORRELATIONS FOR BOYS AND GIRLS BY READING SCORE (ABOVE 6.7; EQUAL TO AND LESS THAN 6.7)

BOYS	Positive Coping	Projection	Denial	Non-Coping	ART 84	GPA	Stressor Reaction
Positive Coping					GT 6.7		
Projection	-.05				n = 41		
Denial	-.06	.30**					
Non-Coping	.26*	.41***	.16				
ART 84	.26*	-.36**	-.14	-.28*			
GPA	.09	-.46***	-.17	-.25*	.51***		
Stressor Reaction	.10	-.16	-.10	.23*	.48***	.23*	
Stressor Frequency	.14	.22	-.09	.17	-.21	-.21	-.18
Positive Coping					LE 6.7		
Projection	.16				n = 42		
Denial	-.01	.48***					
Non-Coping	-.11	.44***	.44***				
ART 84	.39***	.03	.03	.05			
GPA	-.08	.02	-.02	-.04	-.05		
Stressor Reaction	.07	-.30**	-.23*	-.16	.21	-.01	
Stressor Frequency	-.28*	.21	-.04	.32**	-.42***	.26*	-.36**
GIRLS							
Positive Coping					GT 6.7		
Projection	-.35***				n = 41		
Denial	-.14	.20					
Non-Coping	.22*	-.17	.11				
ART 84	-.05	-.26*	-.14	-.27*			
GPA	-.19	-.02	-.18	-.13	.48***		
Stressor Reaction	-.34**	-.08	-.16	.22*	.27*	.33**	
Stressor Frequency	-.01	.13	.42***	.24*	-.18	-.27*	-.07
Positive Coping					LE 6.7		
Projection	.07				n = 53		
Denial	-.32**	.47****					
Non-Coping	.01	.26**	.20*				
ART 84	.24**	-.02	-.24**	.06			
GPA	.13	-.03	-.23*	-.22*	.30**		
Stressor Reaction	-.01	-.07	-.07	-.00	-.08	.00	
Stressor Frequency	.10	.20*	-.02	.26**	-.33**	.02	-.04

* $p < .10$. ** $p < .05$. *** $p < .01$. **** $p < .001$.

TABLE 8

MULTIPLE CORRELATION AND REGRESSION COEFFICIENTS OF FINAL GRADE POINT AVERAGE ON ADJUSTED READING TEST, COPING VARIABLES AND INTERACTIONS WITH STRESSOR FREQUENCY FOR TOTAL SAMPLE, AND BOYS AND GIRLS SEPARATELY

n = 144

Independent Variable	Overall R	R^2	dR^2	Beta
ART 84	.40****	.16	.157****	.40
Positive Coping	.40****	.16	.004	.06
Projection	.41****	.17	.007	-.08
Denial	.42****	.18	.008	-.10
Non-Coping	.42****	.18	.003	-.06
Stressor Frequency	.42****	.18	.001	.04
Projection x Str Fr	.44****	.18	.017*	-1.02
Denial x Str Fr	.46****	.21	.013	.79
Boys n = 68				
ART 84	.40***	.16	.164***	.40
Positive Coping	.40***	.16	.000	-.01
Projection	.44***	.19	.030	-.17
Denial	.44***	.20	.004	-.07
Non-Coping	.44**	.20	.000	.02
Stressor Frequency	.45**	.20	.007	.10
Projection x Str Fr	.52***	.27	.061**	-2.04
Denial x Str Fr	.53	.29	.028	1.59
Girls n = 76				
ART 84	.50****	.25	.247****	.50
Positive Coping	.50****	.25	.000	-.01
Projection	.50****	.25	.000	.01
Denial	.50****	.25	.004	-.06
Non-Coping	.52****	.27	.016	-.13
Stressor Frequency	.52***	.27	.002	.05
Projection x Str Fr	.52***	.27	.000	-.01
Denial x Str Fr	.52***	.27	.000	.05

* $p<.10$. ** $p<.05$. *** $p<.01$. **** $p<.001$.

TABLE 9

MULTIPLE CORRELATION AND REGRESSION COEFFICIENTS OF FINAL GRADE POINT AVERAGE ON ADJUSTED READING TEST, COPING VARIABLES AND INTERACTIONS WITH STRESSOR FREQUENCY FOR STUDENTS WITH READING TEST SCORES ABOVE 6.7 AND STUDENTS WITH READING TEST SCORES EQUAL TO AND LESS THAN 6.7

ABOVE 6.7 n = 62				
Independent Variables	Overall R	R^2	dR^2	Beta
ART 84	.38***	.15	.147***	.38
Positive Coping	.41***	.17	.017	.13
Projection	.44***	.19	.026	-.17
Denial	.44**	.20	.006	-.08
Non-Coping	.45**	.20	.003	-.06
Stressor Frequency	.48**	.23	.035	-.20
Projection x Str Frequency	.52**	.27	.036	-1.52
Denial x Str Frequency	.52**	.27	.000	-.00
EQUAL TO OR LESS THAN 6.7 n = 82				
ART 84	.14	.02	.020	.14
Positive Coping	.14	.02	.001	.03
Projection	.14	.02	.000	-.00
Denial	.22	.05	.027	-.20
Non-Coping	.24	.06	.010	-.11
Stressor Frequency	.33	.11	.049**	.27
Projection x Str Frequency	.33	.11	.001	-.18
Denial x Str Frequency	.37	.14	.031	1.13

* $p < .10$. ** $p < .05$. *** $p < .01$. **** $p < .001$.

TABLE 10

MULTIPLE CORRELATION AND REGRESSION COEFFICIENTS OF FINAL GRADE POINT AVERAGE ON ADJUSTED READING TEST, COPING VARIABLES AND INTERACTIONS WITH STRESSOR FREQUENCY FOR BOYS AND GIRLS WITH READING TEST SCORES ABOVE 6.7 AND FOR BOYS WITH READING TEST SCORES EQUAL TO AND LESS THAN 6.7

BOYS ABOVE 6.7 n = 33					EQUAL TO AND BELOW 6.7 n = 35			
Independent Variable	Overall R	R^2	dR^2	Beta	Overall R	R^2	dR^2	Beta
ART 84	.50***	.25	.252***	.50	.01	.00	.000	-.01
Positive Coping	.50**	.25	.001	-.03	.05	.00	.002	.05
Projection	.60***	.36	.106*	-.35	.07	.01	.003	.06
Denial	.60**	.36	.000	-.00	.19	.04	.031	-.20
Non-Coping	.60**	.36	.001	-.03	.23	.06	.019	.17
Stressor Frequency	.60*	.36	.002	-.05	.32	.10	.049	.28
Projection x Str Freq	.63*	.39	.033	-1.82	.35	.12	.015	-1.09
Denial x Str Freq	.63*	.40	.000	.13	.47	.22	.098*	3.46
GIRLS ABOVE 6.7 n = 29					EQUAL TO AND BELOW 6.7 n = 47			
ART 84	.46**	.21	.210**	.46	.23	.05	.053	.23
Positive Coping	.46**	.22	.005	-.07	.23	.05	.000	.01
Projection	.47*	.22	.007	.09	.24	.06	.005	-.07
Denial	.47	.22	.000	.01	.25	.06	.004	-.09
Non-Coping	.51	.26	.036	.21	.41	.17	.104**	-.35
Stressor Frequency	.54	.29	.035	-.20	.47	.22	.051	.27
Projection x Str Freq	.57	.32	.031	1.62	.47	.22	.005	.55
Denial x Str Freq	.66	.44	.113*	-3.87	.48	.23	.005	-.51

* $p < .10$. ** $p < .05$. *** $p < .01$. **** $p < .001$.

TABLE 11

SPECIAL CASES (2 x 2 MATRIX)

	GROUP I Hi STRF/Hi GPA n = 15		GROUP II Lo STRF/Hi GPA n = 15		GROUP III Hi STRF/Lo GPA n = 15		GROUP IV Lo STRF/Lo GPA n = 9	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
1. Positive Coping	3.6	.5	3.4	.4	3.5	.6	3.5	.5
2. Projection	2.0	.7	1.8	.6	2.3	.7	1.9	.6
3. Denial	2.1	.7	1.9	.5	2.3	.8	2.3	.6
4. Non-Coping	2.4	.7	2.4	.7	2.9	.7	2.6	.8
5. ART 84	7.1	2.1	8.2	2.0	6.3	1.7	6.3	1.1
6. GPA	79.9	6.1	83.3	11.0	67.9	7.1	62.1	6.9
7. Stress Reaction	68.6	10.5	72.1	6.6	64.5	6.4	67.0	6.0
8. Stress Frequency	35.5	4.1	23.5	1.1	36.2	4.7	24.1	3.1
9. Total S - Esteem	89.3	10.3	102.3	9.7	87.0	7.9	93.4	8.9
10. School S - Esteem	29.8	4.7	33.5	4.4	27.3	2.8	28.3	2.8
11. N - S Ext. Cont.	14.1	3.7	11.9	4.1	14.4	3.8	14.8	5.1

* $p < .10$. ** $p < .05$. *** $p < .01$. **** $p < .001$, two-tailed test.

1. No differences
2. t = 2.24** (Gr II vs Gr III)
3. t = 1.59* (Gr II vs Gr III); t = 1.57* (Gr II vs Gr IV)
4. t = 2.0* (Gr I vs Gr III); t = 1.96* (Gr II vs Gr III)
5. t = 2.8*** (Gr II vs Gr III); t = 3.0*** (Gr II vs Gr IV)
6. By design, Gr I & Gr II significantly higher than Grs III & IV
7. t = 3.2***(Gr II vs Gr III); t = 1.93* (Gr III vs Gr IV)
8. By design, Gr I & Gr III significantly higher than Grs II & IV
9. t = 3.55*** (Gr I vs Gr II); t = 7.83**** (Gr II vs Gr III); t = 2.28** (Gr II vs Gr IV); t = 1.77* (Gr III & Gr IV)
10. t = 2.23** (Gr I vs Gr II); t = 3.80**** (Gr II vs Gr III)
11. t = 2.2** (Gr I vs Gr II); t = 1.74* (Gr II vs Gr III); t = 1.71* (Gr II vs Gr IV)